



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,101	08/26/2003	Bradley L. Todd	2001-IP-005443U2	6428
7590 Robert A. Kent Halliburton Energy Services 2600 South 2nd Street Duncan, OK 73536		12/18/2006	EXAMINER ZIMMER, MARC S	
			ART UNIT 1712	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS		MAIL DATE 12/18/2006	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/650,101	TODD ET AL.
Examiner	Art Unit	
	Marc S. Zimmer	1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 November 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4,7-11,14-18,21,22,27 and 30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 16-18,21,22 and 30 is/are allowed.

6) Claim(s) 1-4,7,9-11,14 and 27 is/are rejected.

7) Claim(s) 8 and 15 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date .

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. .

5) Notice of Informal Patent Application

6) Other: .

In the correspondence dated September 22, 2006, the Examiner held that the Rule 1.131 Declaration submitted as a means of overcoming the prior art rejection under 35 U.S.C. 102(e) of *Nguyen* was not entirely effectual because that document did not illustrate a reduction to practice of the embodiments that relied on an acid-releasing material other than lactides nor was it demonstrated that the alternatives, e.g. poly(glycolide) would have been obvious to one of ordinary skill. (Again, an applicant need not illustrate a reduction to practice of every permutation of their invention before the effective date of the reference if the other variants are obvious to one having ordinary skill.)

In their response, it is implied that these other materials are obvious alternatives to the lactide if they are known to hydrolyze to carboxylic acids. In particular, Applicant says of the anhydrides that they,

“are simply additional examples of compounds that also undergo hydrolysis to yield carboxylic acids and, thus, to a person of ordinary skill in the art, substantially water-insoluble anhydrides would be obvious variants of those embodiments described in the Declaration.”

The Examiner is willing to acknowledge the obviousness of the other permutations based on the rationale set forth by Applicant. In turn, according to Applicant’s own standards of what constitutes an obvious alternative, i.e. any material that is known to hydrolyze to a carboxylic acid, the Examiner believes that it could be said that, by extension of Applicant’s own position, the materials outlined in the independent claims are obvious alternatives to the latent carboxylic acids mentioned in at least one of the

other documents over which rejections had been made in the earlier stages of prosecution.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 7, 9-11, 14, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable in view of Harris et al., U.S. patent # 5,813,466. Harris et al. disclose the utilization of a precursor as a source of latent acid to degrade a crosslinked polymer. As in the other cases, the crosslinked polymer is employed in a fracturing composition (column 6, lines 1-3). Constituents of the crosslinked polymer are the polysaccharides and water-soluble organic polymers mentioned in column 3, lines 1-31, and the crosslinking agents listed in column 4, lines 1-56. Whereas Dawson used a synergistic combination of an inorganic oxidant and an ester to promote degradation of the polymer thereby yielding a reduction in the viscosity of the composition, Harris teaches the addition of an enzyme that facilitates slow hydrolysis of the ester into an alcohol and the acid needed to bring about polymer degradation (column 2, lines 36-47 and column 5, lines 18-27). Concomitant with carboxylic acid formation is, of course, a lowering in the pH of the crosslinked polymer-containing fluid.

Harris does not, on the other hand, mention the specific acid-releasing materials outlined in the independent claims. Nevertheless, they are *simply additional examples*

of compounds that also undergo hydrolysis to yield carboxylic acids and, thus, to a person of ordinary skill in the art, the species of acid-degradable material recited in claim 1 would be obvious variants of those embodiments mentioned by Harris, and particularly an obvious variant of the lactones (column 5, line 27).

As for claims 4 and 11, the pH at which decrosslinking occurs would be largely a function of the chemical identity of the decomposable material but also would influenced by the chemical identities of the aforementioned polymer and crosslinker. Insofar as (a) the claimed decomposable materials, like those of the instant invention, are hydrolyzed into organic acids that actively destroy the polymer and (b) the polymers and crosslinkers contemplated in Applicant's disclosure are similar to those taught by the reference, the limitation recited in each of the above claims is inherently anticipated.

The Examiner had also previously cited Smith et al., U.S. 5,224,546 and Dawson et al., U.S. 6,793,018. It is not obvious to replace the latent acid materials described in these disclosures with any of the acid-releasing materials of the independent claims because the acid-releasing materials provided therein must be polycarboxylic acids/capable of being used as chelators. This would not be true of the acids generated by, for instance, the hydrolysis of lactide.

Allowable Subject Matter

Claims 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 16-18, 21-22, and 30 are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 12, 2006

Marc S. Zimmer
MARC S. ZIMMER
PRIMARY EXAMINER